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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,678	09/26/2003	Cyrus Pershing Henry	YOUZ 2 00090	9803
27885	7590	02/15/2006	EXAMINER	
FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			THEXTON, MATTHEW	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/672,678

**Applicant(s)**

HENRY ET AL.

**Examiner**

Matthew A. Thexton

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-52 and 54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34, 51 and 52 is/are rejected.
- 7) ☒ Claim(s) 35-50 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>two sheets</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The IDS filed 2004 April 2 has been considered. Reference EP 334155A1 has been lined through on the form PTO-1449 since it is not in the English language and it has a US equivalent US 5006621, also cited on the form PTO-1449. Reference WO 01/68731A1 has been lined through on the form PTO-1449 since it is not in the English language and it has a US equivalent US 6750305B2, considered and cited on form USPTO-892.

### ***Drawings***

The drawings are accepted.

### ***Specification***

The title is objected to. See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### ***Arrangement of the Specification***

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

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- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: A section heading BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S) and appropriate description is required.

Appropriate correction is required.

### ***Claims Version***

The listing of claims submitted in the paper filed 2003 September 26, headed "Amendments to the Claims" has been examined. The listing of claims submitted 2004 July 15 with the signed declaration has been disregarded.

### ***Claims Analysis***

Claim 1 is directed to a fuel mixture comprising:

- (a) a fuel; and
- (b) a polymeric material comprising at least one mer of Formula I.

The terms "hydrocarbyl" and "heterocycle" and "hydrocarbon" are defined in the specification.

Claims 2-34, 51 and 52 depend directly or indirectly from claim 1 and specify or further limit: other mers in the polymer; the type of heterocycle; the type of linker group; the type of alpha group on the possible mers; the amount of the mers in the polymeric material; the number average molecular weight of the polymeric material; the type of fuel; the amount of polymeric material in the mixture.

Claims 35-47 ostensibly depend directly or indirectly from claim 1 and further set forth that the polymeric material "is obtained or obtainable" by reaction of specified reactants.

Claims 48-50 ostensibly depend directly or indirectly from claim 1 and further specify the presence of metal deactivator or antioxidant.

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Claim 54 ostensibly depends from claim 49 and is directed to inhibiting deposit formation in a fuel by “combining” the fuel with polymeric material (which corresponds to claim 1) or with “a fuel additive composition as defined in claim 49.”

### ***Claim Objections***

Claims 1-52, and 54 are objected to because of the following informalities: The claims fail to comply with 37 CFR 1.75(i). Appropriate correction is required.

Claim 35 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim refers back to “any of the preceding claims” but couches the reference in terms of “wherein R1 and R4 are as defined in any one of the preceding claims.” Aside from the fact that at least claim 1 doesn’t define R4, such language does not permit one to construe this claim to contain all of the limitations of the claim(s) from which it ostensibly depends.

**Claims 35-47 cannot be understood as to their scope. Accordingly, the claims have not been further treated on the merits.**

Claim 48 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

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dependent form, or rewrite the claim(s) in independent form. The claim refers back to “a polymeric compound as defined in claim 1.” Such language does not permit one to construe this claim to contain all of the limitations of the claim(s) from which it ostensibly depends; most notably it appears to exclude the component “fuel” of claim 1.

Claim 50 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim refers back to “a fuel additive composition as defined in claim 48.” Such language does not permit one to construe this claim to contain all of the limitations of the claim(s) from which it ostensibly depends.

Claim 54 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim both contains an independent embodiment and refers back to “or a fuel additive composition as defined in claim 49.” Such language does not permit one to construe this claim to contain all of the limitations of the claim(s) from which it ostensibly depends.

**Claims 48-50 and 54 cannot be understood as to their scope. Accordingly, the claims have not been further treated on the merits.**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 35-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 35/1, among other dependencies, fails to set forth the meaning of R4. Claim 36/1, among other dependencies, fails to set forth the meaning of R2 or R3.

***35 USC § 102 and 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections***

Claims 1, 2, 4-10, 12-28, and 33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wahle et al. (US 5006621).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '621 discloses copolymers of behenylacrylate and nitrogen containing olefins of the type (A) or (B) (column 2, line 23 to column 3, line 25, and examples) as additives for crude oil (fuel).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wahle et al. (US 5006621) as applied to claim 1 above, and further in view of Wahle et al. (US 5006621).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

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The reference '621 discloses viscosity of the copolymers and pour points in crude oil, from which it would have been obvious to one of ordinary skill in the art at the time of the invention that the molecular weight may be of a range such as encompassed by Applicant's claim.

Claims 1, 2, 4-6, 12, 13, 15, 16, 18-28, 33, and 52 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ek (US 3864099).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '099 discloses copolymers of aziridineethyl acrylate or methacrylate and alkyl ester of (meth)acrylic acid, such as aziridineethyl methacrylate and lauryl methacrylate (example 1) as additives for fuel oils (examples), and suggests jet fuels (column 6, line 61). The examples employ 33% concentrates at 9 phr, which appears to anticipate the dosage of claim 52.

Claims 34 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ek (US 3864099) as applied to claim 1 above, and further in view of Ek (US 3864099).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '621 discloses molecular weight of greater than 20,000 (column 6, lines 19-25) from which it would have been obvious to one of ordinary skill in the art at

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the time of the invention that the molecular weight may be of a range such as encompassed by Applicant's claim. '621 suggests jet fuels (column 6, line 61) from which it would have been obvious to one of ordinary skill in the art at the time of the invention to have made such mixtures.

Claims 1, 2, 4-6, 9, 10, 12, 13, 15, 16, 18-26, 28, and 33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Handa et al. (WO 99/58580A1).

The present claims are broadly discussed hereinabove in the section **Claims Analysis** which is incorporated by reference.

Reference '580 discloses modified polymethacrylates which have been partially transesterified with hydroxymethyl-heterocyclic compounds to form polymers suitable for fuel oils (examples 1-4, 6, and 10).

Claims 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handa et al. (WO 99/58580A1) as applied to claim 1 above, and further in view of Handa et al. (WO 99/58580A1).

The present claims are broadly discussed hereinabove in the section **Claims Analysis** which is incorporated by reference.

The reference '580 discloses modified polymethacrylates which have been partially transesterified with hydroxymethyl-heterocyclic compounds to form polymers suitable for fuel oils (examples 1-4, 6, and 10). Example 10 employs 50 and 100 ppm; it would have been obvious to one of ordinary skill in the art at the time of the invention

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that the dose may be varied for normal reasons such as economic and thus be encompassed by Applicant's claim 52. '580 suggests jet fuels (claim 15) from which it would have been obvious to one of ordinary skill in the art at the time of the invention to have made such mixtures as encompassed by Applicant's claim 51.

Claims 1, 2, 4-6, 9, 10, 12-28, 33, 34, and 52 rejected under 35 U.S.C. 103(a) as being unpatentable over Emmons (US 3371040).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

'040 discloses copolymers of alkyl acrylates (column 4, lines 18-22 and examples) with monomers of formula (I) (column 1, lines 60-65 and examples) and useful as additives for fuels at about 0.001 to 10 weight % (column 1, lines 43-46). '040 does not exemplify the fuel mixture, however it would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the plain suggestions and to have prepared the mixtures, thus arriving at Applicant's encompassed subject matter.

#### ***Citation of Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Henry et al. (EP 382493A1), cited by Applicant, discloses copolymers as fuel oil additives and further addition of N,N'-disalicylidene-1,2-propanediamine (page 3, lines 56-7).

Gateau et al. (US 6750305B2) corresponds to WO 01/68731A1, cited by Applicant.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Tuesday-Friday, 9:30 to 7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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